A CLAIMS

~~Patent claims~~

1. A process for the preparation of (metal) salts of alkylphosphonous acids, which comprises reacting elemental yellow phosphorus with halogen-free alkylating agents in the presence of at least one base.

2. A process as claimed in claim 1, wherein the reaction is carried out in a two-phase system comprising at least one base and an organic solvent.

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3. A process as claimed in claim 1 ~~or 2,~~ wherein the alkylating agents are dialkyl sulfates, trialkyl phosphates, dialkyl carbonates and/or formic acid ortho-esters.

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4. A process as claimed in ~~one or more of claims 1 to 3,~~ claim 1 wherein the organic solvents employed are straight-chain or branched alkanes, alkyl-substituted aromatic solvents, water-immiscible or only partially water-miscible alcohols or ethers, alone or in combination with one another.

5. A process as claimed in ~~one or more of claims 1 to 4,~~ claim 1 wherein the organic solvent employed is toluene, alone or in combination with alcohols.

6. A process as claimed in ~~one or more of claims 1 to 5,~~ claim 1 wherein the bases are hydroxides, carbonates, bicarbonates, amides, alkoxides and/or amine bases.

7. A process as claimed in ~~one or more of claims 1 to 6,~~ claim 1 wherein the reaction is carried out in the presence of a phase-transfer catalyst.

8. A process as claimed in claim 7, wherein the phase-transfer catalyst is a tetraalkylphosphonium halide, triphenylalkylphosphonium halide or tetra-organylammonium halide.

9. A process as claimed in ~~one or more of claims 1 to 8,~~ claim 1 wherein the temperature during the reaction is from -20 to +60°C.

10. A process as claimed in ~~one or more of claims 1 to 9,~~ claim 1 wherein the temperature is from 0 to 30°C.

11. A process as claimed in ~~one or more of claims 1 to 10,~~ Claim 1 wherein the reaction is carried out at a pressure of from 0 to 10 bar.

12. A process as claimed in ~~one or more of claims 1 to 11,~~ Claim 1 wherein the yellow phosphorus is suspended or dissolved in a solvent or solvent mixture and then reacted with a halogen-free alkylating agent and at least one base.

13. A process as claimed in ~~one or more of claims 1 to 12,~~ Claim 1 wherein the yellow phosphorus and the halogen-free alkylating agent are reacted in a molar ratio of from 1:1 to 1:3, where the molar ratio of yellow phosphorus to base is from 1:1 to 1:5.

14. A process as claimed in ~~one or more of claims 1 to 13~~, Claim 1 wherein the two-phase system obtained after the reaction is separated and further processed.

15. The use of a (metal) salt of an alkylphosphonous acid prepared by a process ~~as claimed in claims 1 to 14~~ Claim 1 as a precursor for chemical syntheses.

16. The use of a (metal) salt of an alkylphosphonous acid prepared by a process ~~as claimed in claims 1,~~ Claim 1

~~to 14~~ for the preparation of organophosphorus compounds.

17. The use of a (metal) salt of an alkylphosphonous acid prepared by a process ~~as claimed in claims 1 to 14~~ Claim 1 as a flame retardant or for the preparation of flame retardants.

18. The use of a (metal) salt of an alkylphosphonous acid prepared by a process ~~as claimed in claims 1 to 14~~ Claim 1 for the preparation of flame retardants for thermoplastic polymers, such as polyethylene terephthalate, polybutylene terephthalate or polyamide.

19. The use of a (metal) salt of an alkylphosphonous acid prepared by a process ~~as claimed in claims 1 to 14~~ Claim 1 for the preparation of flame retardants for thermosetting resins, such as unsaturated polyester resins, epoxy resins, polyurethanes or acrylates.